UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

JUN 05 2013

REPLY TO THE ATTENTION OF:

WC-15J

**CERTIFIED MAIL 7009 1680 0000 7678 6430**
**RETURN RECEIPT REQUESTED**

Ex. 6 (Personal Privacy)
Ex. 6 Dairy
Ex. 6 (Personal Privacy)

Re: Administrative Order V-W-12-AO-15

Dear Ex. 6 (Personal Privacy):

Enclosed please find the report for the inspection conducted at Ex. 6 Dairy on May 10, 2013. The purpose of this inspection was to determine if you complied with the requirements to cease unpermitted discharges as specified in the July 31, 2012 Administrative Order.

Based on the inspection, EPA believes that the improvements you made to your facility have eliminated the unpermitted discharges observed during EPA's May 2012 inspection. Therefore, you do not need to submit a NPDES permit application to the IEPA as required by the Administrative Order. Furthermore, EPA anticipates no further action in this matter. If you have any questions on this matter, please contact Joan Rogers of my staff at (312) 886-2785.

Sincerely,

Tinka G. Hyde
Director, Water Division

Enclosure

cc: Bud Bridgewater, IEPA
Brian Rodely, Marion District Office, IEPA
Bruce Rodely, Marion District Office, IEPA

**CWA COMPLIANCE EVALUATION INSPECTION REPORT**
**U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION 5**

**Purpose:**
Compliance Evaluation Sampling Inspection

**Facility:**
Ex. 6 Dairy
Ex. 6

**NPDES Permit Number:**
None

**Date of Inspection:**
May 10, 2013

**EPA Representatives:**

| | |
|---|---|
| Joan Rogers, Environmental Scientist | 312-886-2785 |
| Don Schwer, Environmental Engineer | 312-353-8752 |
| Ben Atkinson, Agricultural Scientist, EPA | 312-353-8243 |

**State Representatives:**

| | |
|---|---|
| Bruce Rodely, Environmental Protection Engineer | 618-993-7200 |
| Brian Rodely, Environmental Protection Engineer | 618-993-7200 |

**Facility Representatives:**
Ex. 6 (Personal Privacy) Owner Ex. 6 (Personal Privacy)

**Report Prepared by:**

| | |
|---|---|
| Joan Rogers, Environmental Scientist | 312-886-2785 |
| rogers.joan@epa.gov | |

**Report Date:**
May 16, 2013

**Inspector Signature** Joan Rogers 5/20/13

## BACKGROUND

The purpose of this report is to describe, evaluate and document the Ex. 6 Dairy's compliance with the Clean Water Act (CWA) and an EPA Administrative Order (Order), Docket Number V-W-12-AO-15, at its Aviston, Illinois facility on May 10, 2013. This inspection was planned to document and verify those measures in preparation for closing out the Order.

Ex. 6 Dairy is a dairy operation in Clinton County, Illinois. During an inspection on May 2, 2012, EPA identified discharges of manure and process wastewater from the production area to an intermittent unnamed tributary. On July 31, 2012, EPA issued an Order to Ex. 6 (Personal Dairy requiring the facility to implement measures to eliminate the discharges and complete a permit application for a National Pollutant Discharge Elimination System (NPDES) permit, including a Comprehensive Nutrient Management Plan (CNMP). Ex. 6 (Personal Dairy has submitted a CNMP to EPA and Illinois Environmental Protection Agency (IEPA) for review and has completed construction of manure containment structures that were necessary to prevent discharges of manure and process wastewater from the facility.

On May 10, 2013 the facility had approximately 350 milking cows with about 40 dairy calves. Ex. 6 (Personal Dairy, Inc. is considered a medium dairy Animal Feeding Operation (AFO) due to the number of mature dairy cows maintained on the facility.

Storm water that falls on the majority of the production area flows to the south and to an intermittent unnamed tributary. Storm water that falls on the northwest portion of the facility flows to the west to the same intermittent unnamed tributary. The intermittent unnamed tributary flows west and then north approximately 0.30 miles to perennial Lake Branch. Lake Branch flows to Sugar Creek which in turn flows to the Kaskaskia River. The Kaskaskia River flows to the Mississippi River. Lake Branch has been assessed and is on the 303(d) list of impaired waters. In the 2012 list, it is listed as impaired for Dissolved Oxygen, Total Phosphorus, Sedimentation/Siltation and Total Suspended Solids.

## SITE INSPECTION

EPA arrived at the Ex. 6 Dairy facility at approximately 2:15 P.M. and met with Ex. 6 (Personal Privacy) Ex. 6 (Personal Privac The temperature was approximately 75°F with no precipitation on the day of the inspection, but it had rained during the previous night. EPA put on disposable boots and presented credentials to Ex. 6

EPA and IEPA had reviewed the Ex. 6 Dairy CNMP in the office so there was no need to review it on site. The CNMP was developed in February 2013 by Mr. Wade Meteer of Frank and West Environmental Engineers, Inc. It is for the planning period of 2013-2017. The CNMP contained the site specific plans for the operation of the facility and an Emergency Response Plan. The plan contained soil test data for most of the land

application fields, but identified that some fields needed to have soil tests updated. It also contained manure sample analysis.

The Ex. 6 Dairy facility has a sand lane for sand collection, a solids settling basin, and four waste holding ponds. The first three ponds are in series after receiving the flow off the settling basin. The fourth holding pond on the west side of the facility receives the manure and process wastewater from the barns at the northwest corner of the facility and the milking parlor wash water. All four holding ponds have a capacity volume of 4.7 million gallons which provides 320 days of storage.

Walkthrough of the Facility

EPA began the walkthrough of the facility at the north end of the Silage Pad. A rock berm prevents clean water from north from flowing onto the Silage Pad. The clean water is diverted to the east and then to the north off the facility. Silage leachate and process wastewater from Silage Pad is directed toward the East Ditch which transports the flow to the south.

IMGP0080: Calf Barn at northeast corner of the facility. Office is attached to the west side of this building. Rock berm prevents clean water from north from flowing onto the Silage Pad.
Location: South of Calf Barn
Facing: Northeast
Date/Time: 5/10/13 2:34 P.M.

IMGP0081: Surface water from the north end of the silage pad flows to a ditch on the east side of the facility, the East Ditch. The East Ditch transports the process wastewater to the south. The northern end of the East Ditch is denoted by a red arrow.
Location: South of Calf Barn
Facing: Northeast
Date/Time: 5/10/13 2:35 P.M.

IMGP0082: The East Ditch transports silage leachate and process wastewater to the south. The East Ditch is denoted by a red arrow.
Location: South of Calf Barn
Facing: South
Date/Time: 5/10/13 2:35 P.M.

A dirt berm on the southern end of the Silage Pad directed silage leachate and process wastewater to the East Ditch. During the 2012 inspection the East Ditch transported the flow to the intermittent unnamed tributary. As a control of this pollutant, the facility has installed a collection basin to intercept the flow of the East Ditch. A pipe in the collection basin directs the process wastewater to a pump station. Inside the pump station, a pump is triggered by a float and pumps the process wastewater to Holding Pond #1.

IMGP0083: South end of silage bags on silage pad. Berm on south end directs process wastewater to the east and to the East Ditch. Berm location is denoted by a red oval.
Location: Southeast corner of silage pad
Facing: Northwest
Date/Time: 5/10/13 2:36 P.M.

IMGP0084: Flow of process wastewater from silage bags to the east. Flow is directed the East Ditch and then to a collection basin.
Location: Southeast corner of silage pad
Facing: Southeast
Date/Time: 5/10/13 2:37 P.M.

**2012 Photo**

IMGP0496: East Ditch flows to the south. An intermittent unnamed tributary of Lake Branch lies in the tree line.
Location: East of Feed Storage Area.
Facing: South
Date/Time: 5/2/12 11:11 A.M.

**2013 Photo**

IMGP0085: Collection basin for silage leachate and process wastewater. The process wastewater flows to a pipe which gravity feeds to the pump station.
Location: Southeast corner of silage pad
Facing: South
Date/Time: 5/10/13 2:37 P.M.

IMGP0086: Pump station that holds a pump which pumps the process wastewater to Holding Pond #1.
Location: Southeast corner of silage pad
Facing: South and down
Date/Time: 5/10/13 2:37 P.M.

IMGP0087: Pump station for process wastewater from the silage leachate collection basin.
Location: Southeast corner of silage pad
Facing: Down
Date/Time: 5/10/13 2:37 P.M.

IMGP0088: Outlet pipe into Holding Pond #1 from pump for silage leachate.
Location: Northeast corner of Holding Pond #1
Facing: Southwest
Date/Time: 5/10/13 2:40 P.M.

IMGP0089: Berms are well maintained on Holding Pond #1. Holding Pond #1 overflows to Holding Pond #2.
Location: Northeast corner of Holding Pond #1
Facing: Southwest
Date/Time: 5/10/13 2:41 P.M.

IMGP0090: Settling Basin for manure from the Freestall Barns. Liquid from the Settling Basin overflows to Holding Pond #1.
Location: Northeast corner of Holding Pond #1
Facing: Northwest
Date/Time: 5/10/13 2:41 P.M.

During the 2012 inspection, EPA documented that process wastewater from the feed alley of the Group 1 and Group 2 Barns flowed to an open pipe south of the barns. The pipe then discharged the process wastewater to a Clean Water Pond on the west side of the facility. The Clean Water Pond had a pipe which outlet to the intermittent unnamed tributary. During construction work to expand the Group 1 and Group 2 Barns, the facility is covering the feed alley and the manhole was removed. The pipe outlet from the Clean Water Pond has been removed and the pond is now Holding Pond #4.

**2012 Photo**

IMGP0567: Open pipe south of Group 1 and Group 2 Barn (circled with red circle).
Location: South of Group 2 Barn.
Facing: Southeast
Date/Time: 5/2/12 11:57 A.M.

**2013 Photo**

IMGP0091: During previous inspection, process wastewater flowed from the feed alley on the east side of the Group 1 and Group 2 Barns to an open pipe to the south. During construction to expand the barns the manhole has been removed.
Location: Northeast corner of Holding Pond #1
Facing: Northwest
Date/Time: 5/10/13 2:41 P.M.

IMGP0092: Construction on the Group 1 and Group 2 Barns.
Location: Northeast corner of Holding Pond #1
Facing: North
Date/Time: 5/10/13 2:41 P.M.

IMGP0093: Construction on the Group 1 and Group 2 Barns.
Location: Northeast corner of Holding Pond #1
Facing: North
Date/Time: 5/10/13 2:43 P.M.

During the 2012 inspection, milk house wash water was directed to a Grassed Filter Strip on the west side of the facility. The Grassed Filter Strip also received manure and process wastewater from the open pens of the Hoop Barns, and the Group 3 and 4 Barns and leachate from the manure stacked inside a modified Slurrystore. The Grassed Filter Strip had channelized flow to the Clean Water Pond, which had an outlet to the intermittent unnamed tributary.

During this inspection, EPA observed that the milk house wash water now flows to a pump station which pumps this process wastewater to Holding Pond #1.

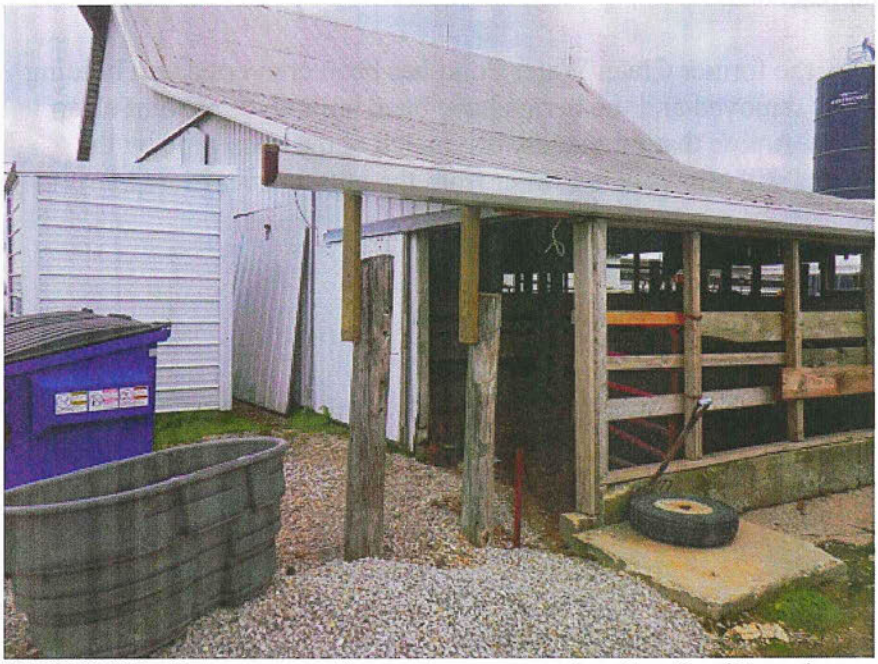
Manure and process wastewater from the open pens of the Hoop Barns and the manure stack inside the modified Slurrystore are directed to an inlet and piping which allows it to gravity flow to Holding Pond #4. A dirt berm across the facility driveway directs clean water away from the open pens of the Hoop Barns and prevents additional water from entering the waste handling system. Additional mountable concrete curbing around the perimeter prevents the manure and process wastewater from bypassing the inlet.

The Group 3 and Group 4 Barns have been renovated and concrete blocks have been installed around the open pens attached to them. Manure and process wastewater is now scraped to the Sand Lane, which flows ultimately to Holding Pond #1.

The former Grassed Filter Strip was scraped clean and several inches of soil removed. All vegetation and soil was land applied. The area where the Grassed Filter Strip was located was leveled and reseeded.

As mentioned previously, the former Clean Water Pond has been converted to a holding pond. The outlet pipe was removed and the berms have been built up to prevent clean water from flowing into it. A pipe that previously originated at the open pipe by the Group 1 and Group 2 Barns still allows clean water from the gutters over these barns to outlet in the pond.

IMGP0094: Milk house wash water, which previously was directed to the Grassed Filter Strip, is now collected in a pit and pumped to Holding Pond #1.
Location: West of Milking Parlor
Facing: Southwest
Date/Time: 5/10/13 2:45 P.M.



IMGP0095: Downspouts for gutters are on the plan for future improvements.
Location: West of Milking Parlor
Facing: Southwest
Date/Time: 5/10/13 2:46 P.M.


IMGP0096: Dirt berm in driveway prevents clean storm water from flowing through open pens by Hoop Barns.
Location: North of Milking Parlor
Facing: East
Date/Time: 5/10/13 2:47 P.M.


IMGP0097: Dirt berm in driveway prevents clean storm water from flowing to the west.
Location: North of Milking Parlor
Facing: Southeast
Date/Time: 5/10/13 2:47 P.M.

**2012 Photo**

IMGP0559: Flow pathway from Hoop Barns and Slurrystore to the Grassed Filter Strip.
Location: North of Slurrystore.
Facing: West
Date/Time: 5/2/12 11:47 A.M.

**2013 Photo**

IMGP0098: The manure and process wastewater from the open pens of the Hoop Barns and the manure stacked inside the modified Slurrystore flows to an inlet where piping allows it to flow by gravity to Holding Pond #4, the former Clean Water Pond. Inlet location is denoted by a red circle.
Location: North of Slurrystore
Facing: South
Date/Time: 5/10/13 2:47 P.M.

IMGP0099: Pipe inlet for manure and process wastewater is denoted by a red circle.
Location: North of Slurrystore
Facing: Southwest
Date/Time: 5/10/13 2:48 P.M.

IMGP0100: Mountable concrete curbing has been installed around the open pens to divert the manure and process wastewater to the pipe inlet. Former Grassed Filter Strip is in background.
Location: North of Slurrystore
Facing: Southwest
Date/Time: 5/10/13 2:48 P.M.

IMGP0101: Pipe inlet structure. Manure and process wastewater are piped to Holding Pond #4.
Location: North of Slurrystore
Facing: Southwest and down
Date/Time: 5/10/13 2:48 P.M.

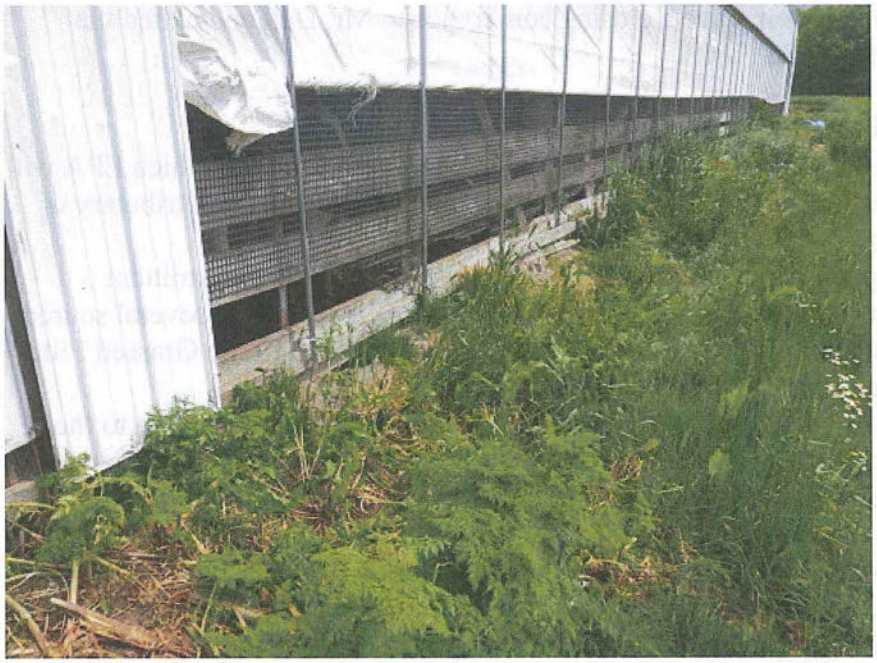
IMGP0102: Former location of the Grassed Filter Strip. Mr. Dall removed and land applied the vegetation and soil. This area has been leveled and reseeded. No manure or process wastewater flows through it and storm water flow from this area goes directly to the intermittent unnamed tributary.
Location: North of Slurrystore
Facing: West
Date/Time: 5/10/13 2:48 P.M.

IMGP0103: Former Grassed Filter Strip. Location of Holding Pond #4 is denoted by a red circle.
Location: North of Slurrystore
Facing: Southwest
Date/Time: 5/10/13 2:48 P.M.

IMGP0104: Flow of manure and process wastewater from the open pens and the manure storage in the Slurrystore.
Location: North of Slurrystore
Facing: West
Date/Time: 5/10/13 2:53 P.M.

IMGP0105: The open pen on the north side of the Group 4 Barn has been contained with concrete blocks and the berm outside the blocks prevents the manure and process wastewater from flowing to the yard to the west.
Location: Northwest corner of Group 4 Barn
Facing: Northeast
Date/Time: 5/10/13 2:54 P.M.

IMGP0106: Northwest corner of Group 4 Barn has been modified so manure and process wastewater do not discharge to the yard to the west.
Location: Northwest corner of Group 4 Barn
Facing: East
Date/Time: 5/10/13 2:55 P.M.



IMGP0107: Looking south along the west wall of the Group 4 Barn.
Location: Northwest corner of Group 4 Barn
Facing: southeast
Date/Time: 5/10/13 2:55 P.M.

IMGP0108: Formerly the Clean Water Pond, this is now Holding Pond #4. Berms around the sides prevent clean water from the west yard to flow into it. The pipe from the pond to the intermittent unnamed tributary has been removed.
Location: West of Group 4 Barn
Facing: Southwest
Date/Time: 5/10/13 3:03 P.M.

EPA concluded the inspection, gave a closing conference to [redacted] and exited the facility at approximately 3:30 P.M.

In May 2012, EPA observed discharges in the following locations:

1. From the silage bags on the east side of the facility, to a ditch which EPA will identify as the East Ditch, and then to the intermittent unnamed tributary of Lake Branch.
2. From the pond at the end of the Grassed Filter Strip to the intermittent unnamed tributary of Lake Branch via a pipe. EPA identified several sources which each contributed pollutants to the pond at the end of the Grassed Filter Strip. They are:
    a. From the concrete pen on the north side of the Group 4 Barn to the Grassed Filter Strip on the west side of the facility, and then to pond at the end of the Grassed Filter Strip and then to the intermittent unnamed tributary.
    b. From the south side of the Group 3 Barn to the Grassed Filter Strip on the west side of the facility, and then to pond at the end of the Grassed Filter Strip and then to the intermittent unnamed tributary.
    c. From the Hoop Barns to the Grassed Filter Strip on the west side of the facility, and then to pond at the end of the Grassed Filter Strip and then to the intermittent unnamed tributary.
    d. From the open wall of the Slurrystore to the Grassed Filter Strip on the west side of the facility, and then to pond at the end of the Grassed Filter Strip and then to the intermittent unnamed tributary.
    e. From the open pipe in the ground on the east side of the facility to the pond at the end of the Grassed Filter Strip and then to the intermittent unnamed tributary.

EPA believes that the improvements to the facility have eliminated these discharges by:

1. Installing a collection basin and pump station that collects the silage leachate and process wastewater and pumps it to Holding Pond #1.
2. Removing the pipe outlet to the intermittent unnamed tributary from the Clean Water Pond and installing:
    a. A concrete block wall and dirt berm around the open pen of the Group 4 Barn to contain the manure and process wastewater from leaving the pen on the west side.
    b. A concrete block wall and dirt berm around the open pen of the Group 3 Barn to prevent the manure and process wastewater from leaving the pen on the west side.
    c. An inlet and piping to collect the manure and process wastewater from the Hoop Barns and their open pens and allowing it to gravity flow to Holding Pond #4.
    d. An inlet and piping to collect the manure and process wastewater from the manure stacked in the Slurrystore and allowing it to gravity flow to Holding Pond #4.

e. Removing the open pipe in the ground south of the Group 2 Barn and covering the feed alley for the Group 1 and 2 Barns.

In May 2012, EPA observed these conditions that were in need of attention:

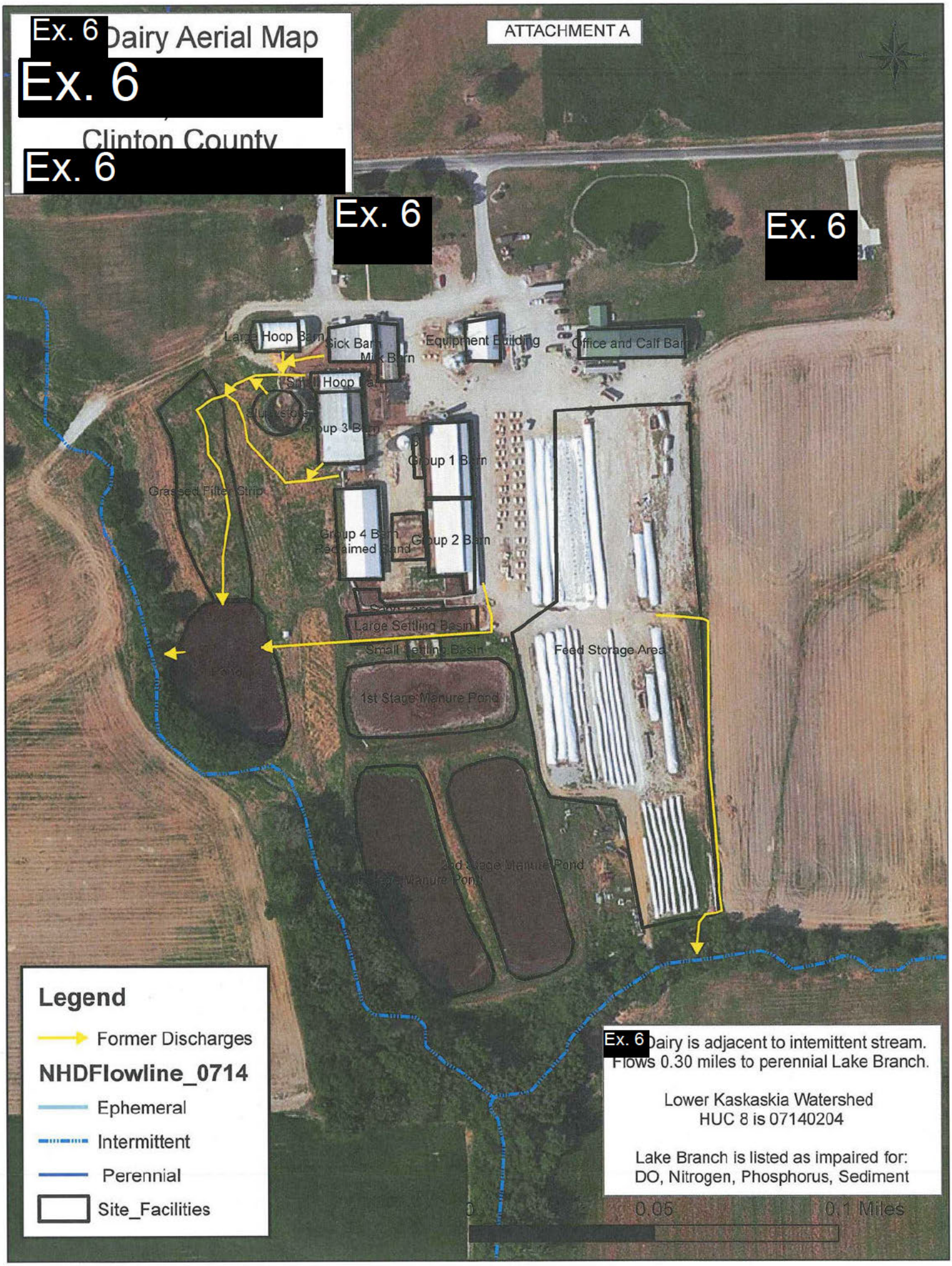
1. Woody growth on the berms of the 2nd and 3rd Stage Manure Ponds.
2. Freeboard marker in 2nd Stage Manure Pond was not level.

EPA believes these conditions have been addressed by:

1. Mowing the berms and removing the woody growth on the west and south sides of the Holding Ponds Ex. 6 also created an access road at the base of the berms of the Holding Ponds in order to provide access for regular visual inspections.
2. Fixed the freeboard marker.

**LIST OF ATTACHMENTS**

A) Aerial photograph of the entire Ex. 6 Dairy site with buildings, waterways and production area labeled.


Ex. 6 Dairy Aerial Map
Ex. 6
Clinton County
Ex. 6
ATTACHMENT A
Ex. 6
Ex. 6
Large Hoop Barn
Sick Barn
Milk Barn
Equipment Building
Office and Calf Barn
Hoop Barn
Group 3 Barn
Group 1 Barn
Grassed Filter Strip
Group 4 Barn
Reclaimed Sand
Group 2 Barn
Large Settling Basin
Small Settling Basin
Feed Storage Area
1st Stage Manure Pond
2nd Stage Manure Pond
Legend
Former Discharges
NHDFlowline_0714
Ephemeral
Intermittent
Perennial
Site_Facilities
Ex. 6 Dairy is adjacent to intemittent stream. Flows 0.30 miles to perennial Lake Branch.
Lower Kaskaskia Watershed
HUC 8 is 07140204
Lake Branch is listed as impaired for:
DO, Nitrogen, Phosphorus, Sediment
0
0.05
0.1 Miles